

Science in a Bag – Teacher Page

Food Chains

**Grade Level**

3rd Grade

**Standards**

GLE 0307.3.1 Describe how animals use food to obtain energy and materials for growth and repair.

90307.3.2 Create a chart to show how plants and animals satisfy their energy requirements.

**Task Objective**

The learner will describe how animals use food to obtain energy and material for growth by filling out the chart provided.

The learner will demonstrate their knowledge on how animals and plants satisfy their energy requirements by completing the food chain activity.

**Explanation**

It is important to know that every living thing survives off of one another. A food chain represents how each living thing gets food and the energy that is passed through organism to organism. Food chains make it possible for students to fully understand and visualize how an organism receives energy from one another. If a student doesn’t realize the main key points of a food chain then that could lead to many misconceptions.

In this activity the students will be creating their own food chain out of little figurines. They will begin by completing the vocabulary activity provided, so they will become familiar with the scientific names. Once that is finished they will create their food chain and answer the questions provided. In order to make sure the students understand, I will have them answer questions and record them in their interactive notebook.

**Academic Vocabulary**

Food Chain- shows how energy from food moves through populations of organisms

Predator- An animal that catches and eats other animals

Producer- organism that makes their own food

Consumer- organism that receives food by eating other organisms

Decomposer- organism that breaks down the remains of other organisms

Primary Consumer- herbivores; eat other producers

Secondary Consumer- carnivores; eat the primary consumers

Tertiary Consumer- carnivores; eat the secondary consumers

Herbivore- consumer that eats only plants

Omnivore- consumer that eats both plants and animals

Carnivore- consumer that eats only meat.

“Card Sorts provide an opportunity for students to engage and use their prior knowledge.” (Keely 56) While students work in pairs to figure out the pairs they use their own ideas and others. “This exercise in categorizing also helps students to understand that sometimes in science, things in the natural world do not always fit neatly into groups.”(Keely 56)

**Common Misconceptions**

Students may think plants are dependent on humans instead of thinking all organisms are dependent on plants. A different misconception is that food chains are made up of predators and prey, but not producers, instead of thinking that producers are an essential part.

**Real World Connection**

If you think about it, everything in the world requires energy. For example, riding a bike and doing homework requires energy! This energy comes from eating plants and animals. Food chains show how each organism receives their energy and how it plays into our life. It repeats in one big circle.

**Connections Across the Curriculum**

1. This activity could be used in writing. “What will happen if I take the producer out of the food chain?” [CCSS.ELA-LITERACY.W.3.1.B](http://www.corestandards.org/ELA-Literacy/W/3/1/b/) “Provide reasons that support the opinion.”
2. This activity could be used for research and writing. If a student wanted to know about the Secondary Consumer, they can research what they eat, how they sleep, etc. “[CCSS.ELA-LITERACY.W.3.7](http://www.corestandards.org/ELA-Literacy/W/3/7/) Conduct short research projects that build knowledge about a topic.”
3. This activity could be used in Social Studies. You can see what type of animals are presented in the food chain and examine their habitat. If you are using a globe you can look at all the major physical and political features of the food chains environment. “3.4 Examine major physical and political features on globes and maps, including mountains, plains, plateaus, mesas, buttes deserts, deltas, islands, peninsulas, basins, canyons, valleys, bays, streams, gulfs, straits, canals, seas, boundaries, cities, highways, roads, and railroads.”

**References**

**Definition of a food chain** [**http://www.sheppardsoftware.com/content/animals/kidscorner/foodchain/foodchain.htm**](http://www.sheppardsoftware.com/content/animals/kidscorner/foodchain/foodchain.htm)

**Academic Vocabulary/Vocab Activity**

[**https://quizlet.com/1234465/food-chain-vocabulary-flash-cards/**](https://quizlet.com/1234465/food-chain-vocabulary-flash-cards/)

[**https://www.tes.com/us/teacher-lessons/food-chain-card-game-7565525**](https://www.tes.com/us/teacher-lessons/food-chain-card-game-7565525)

**Pictures for Card sort** [**https://www.tes.com/teaching-resource/food-web-card-sort-or-cut-and-stick-6082739**](https://www.tes.com/teaching-resource/food-web-card-sort-or-cut-and-stick-6082739)

**Idea for food chain activity**

<http://www.pdesas.org/module/content/resources/7511/view.ashx>

<https://doc-0c-1k-apps-viewer.googleusercontent.com/viewer/secure/pdf/ro4i4e8h0csrdhmtovraqb367sl59705/e07e8kt994ne25eg6c0jkrt7nsebi8iu/1454518575000/drive/17242632792650877085/ACFrOgAzMj0wSnJOlRqhD8ZfcX5YK0wP5CYltZ6ZOcnJQzFK4LoDySPI39ezYRlXgNCGEoRSsbRNMGpCDWGiNiF4U6ODZIxn0MC7DWz2OWMyR-HRLFUbGXvFDGdNTbs=?print=true&nonce=975vj4jijcg5m&user=17242632792650877085&hash=g5uaakkidnik1uccpl8h31i37f1mileo>

**Common Misconceptions**

[**http://beyondpenguins.ehe.osu.edu/issue/tundra-life-in-the-polar-extremes/common-misconceptions-about-biomes-and-ecosystem**](http://beyondpenguins.ehe.osu.edu/issue/tundra-life-in-the-polar-extremes/common-misconceptions-about-biomes-and-ecosystems)

**Standards**

<http://www.corestandards.org/ELA-Literacy/>

[http://tn.gov/assets/entities/education/attachments/std\_sci\_gr\_3.pd](http://tn.gov/assets/entities/education/attachments/std_sci_gr_3.pdf)

**Real life Connections**

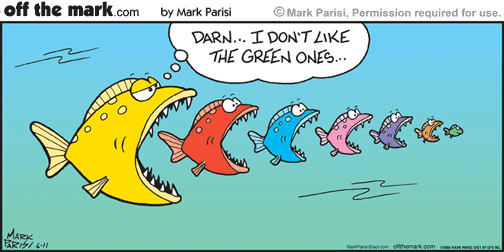
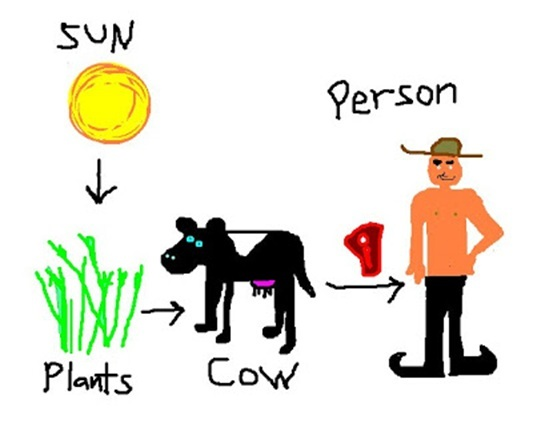
[http://ed101.bu.edu/StudentDoc/Archives/ED101fa09/tje50/Importance.htm](http://ed101.bu.edu/StudentDoc/Archives/ED101fa09/tje50/Importance.html)

ClipArt

<https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwj2_6z0jezKAhUKSiYKHUX5CwwQjB0IBg&url=http%3A%2F%2Fanonymous.org.il%2Frationalization&bvm=bv.113943665,d.eWE&psig=AFQjCNFlP40aR4ynKOFlWEoIbqLWWnQe8g&ust=1455156326239066>

**Science Formative Assessment Book**

Keeley, Page. *Science Formative Assessment: 75 Practical Strategies for Linking Assessment, Instruction, and Learning*. Thousand Oaks, CA: Corwin, 2008. Print.

Science in a Bag – Student Page

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**Task Objective**

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**Materials Needed**

Box

Construction Paper

Sun

Grass

Animal figures

Arrows

Magnet Strip

Pictures of animals

Card Sort- Vocabulary Activity

**Procedures**

Vocabulary Activity

1. Grab the vocabulary activity in the bag labeled “Vocabulary Activity” that’s inside the box.
2. Read the directions for the vocabulary activity.
3. You will match the vocabulary word with its correct meaning.
4. You will then complete the vocabulary activity as a group and write down your answers in your interactive notebook.
5. Once each group member finishes, you can check the correct answers by opening the envelope labeled Vocabulary Activity Answers. The correct answers will be inside.

Card Sort Activity

1. Now pull out the words Producer, Primary Consumer, Secondary Consumer, and Tertiary Consumer.
2. Place them beside each other.
3. Use bag that is labeled “Pictures for Card Sort Activity” and place each picture under the correct row.
4. Once you think you’ve got the correct answers, sketch them down in your interactive notebook and we will go over them once every group in the classroom has completed this activity.

Construct a Food Chain

1. Next you will take all the different figures out of the box and create a food chain.
2. Make sure the food chain is in correct order (producer, consumer, etc)
3. Don’t forget to use the arrows in the bag labeled “Arrows.” This shows how the energy is processed.
4. After you create the food chain with the figures, you then take the pictures in the bag labeled “Food Chain Activity for Box Lid” with the magnet piece on the back and create the food chain on the lid of the box by placing the pictures on the magnet strip.
5. You will write down the food chain you created in your interactive notebook

Assessment Questions

You will answer both questions provided and should be written in a paragraph. This information should be placed in your interactive notebook.

What will happen if I take the producer out of the food chain?

Why is a food chain important.

Clean Up

Once you are finished place each item back in the correct bag and place the bag in the science box. This area should not have anything left outside of the science box.

**Academic Vocabulary & Formative Assessment**

We will be using Card Sorts (Keeley 56) for our vocabulary activity and formative assessment as described at the beginning of the student procedures.

**Clean-up**

Once this activity is completed and you have recorded down your information in your interactive notebook, you can put away the items. In order to clean up, you need to place all the figures and arrows back in the box. Please don’t forget to get the pictures off of the lid and place them back in the box. This should be an easy clean up with no mess!